

CLAIMS

1. Method for enhancing the measuring accuracy in an antenna array (1) comprising a number of antenna elements (2), where the method comprises the steps of;
- 5 - receiving analog signals with the antenna array (1) elements, and;
 - producing values for a radiation diagram from the signals,
 c h a r a c t e r i z e d i n that the method comprises the steps of;
 a) -receiving analog signals on all antenna elements (2) at a first time t_1 ;
 - producing first values for, a first radiation diagram from the values in the
10 signals from the first time t_1 , and;
 - finding the maximum point (8) for the first values,
 b) - switching off or reducing the signal from one interadjacent antenna
 element (2) at a second time (t_2);
 - receiving analog signals on all antenna elements (2) except from the one
15 switched off or reduced antenna element, and;
 - producing second values for a second radiation diagram from the values in
 the signals from the second time (t_2);
 c)-using the first values to calculate a first range (9) referring to the second
 radiation diagram, outside which the first range (9) grating lobes (7) will
20 appear in the second radiation diagram;
 - rejecting all values outside the first range (9), and;
 - finding the maximum point (8) for the second values.
2. Method according to claim 1, c h a r a c t e r i z e d i n that step b) and step
25 c) is repeated such that the antenna configuration dynamically is altered such
 that interadjacent antenna elements 2 are switched off or reduced until only
 the outermost antenna elements 2 remain.
3. Method according to claim 1 or 2, c h a r a c t e r i z e d i n that the step of
30 finding the maximum point (8) for the values refers to calculating at which
 angle (θ_{max}) the maximum point (8) for the main lobe (6) appears in a
 radiation diagram.

4. Method according to any one of the previous claims, characterized in that method comprises the step of converting the analog signals to digital signals by sampling.

5

5. Method according to any one of the previous claims, characterized in that the method comprises the step of producing a radiation diagram from the values.

10 6. Method according to any one of the previous claims, characterized in that the antenna elements (2) have a relative distance such that no grating lobes (7) will occur when using all elements in a full array.

15 7. Antenna array (1) system (23) comprising means for enhancing the measuring accuracy in an antenna array (1) comprising a number of antenna elements (2), where the antenna array (1) system (23) comprises;

- means (13) for receiving analog signals with the antenna array (1) elements, and;

- means (14) for producing values for a radiation diagram from the signals,

20 characterized in that antenna array (1) comprises;

a) - means (13) for receiving analog signals on all antenna elements (2) at a first time (t_1);

- means (14) for producing first values for a first radiation diagram from the values in the signals from the first time (t_1), and;

25 - means (15) for finding the maximum point (8) for the first values,

b) - means (16) for switching off or reducing the signal from one interadjacent antenna element (2) at a second time (t_2);

- means (13) for receiving analog signals on all antenna elements (2) except from the one switched off or reduced antenna element, and;

30 - means (14) for producing second values for a second radiation diagram from the values in the signals from the second time (t_2);

- c)-means (17) for using the first values to calculate a first range (9) referring to the second radiation diagram, outside which first range (9) grating lobes (7) will appear in the second radiation diagram;
-means (18) for rejecting all values outside the first range (9), and;
5 -means (15) for finding the maximum point (8) for the second values.

8. Antenna array (1) system (23) according to claim 7, characterized in that the system comprises means (19) for repeating step b) and step c) such that the antenna configuration dynamically is altered such that
10 interadjacent antenna elements (2) are switched off or reduced until only the outermost antenna elements (2) remain.

9. Antenna array (1) system (23) according to claim 7 or 8, characterized in that the means (15) for finding the maximum point
15 (8) for the values comprises means for calculating at what angle (θ_{\max}) the maximum point (8) for the main lobe (6) appears in a radiation diagram.

10. Antenna array (1) system (23) according to any one of claims 7-9, characterized in that the system comprises means (21) for converting
20 the analog signals to digital signals by sampling.

11. Antenna array (1) system (23) according to any one of claims 7-10, characterized in that the system comprises means (22) for producing
a radiation diagram from the values.

25

12. Antenna array (1) system (23) according to any one of claims 7-10, characterized in that the antenna elements (2) have a relative distance (3) such that no grating lobes (7) will occur when using all elements in a full array.